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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,413	03/26/2004	Michael D. Kass	S-99,227	3188

31974 7590 05/30/2006

UNITED STATES DEPARTMENT OF ENERGY  
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WASHINGTON, DC 20585-0162

EXAMINER
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BLACKWELL RUDASIL, GWENDOLYN A

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/817,413	<b>Applicant(s)</b> KASS ET AL.	
	<b>Examiner</b> Gwendolyn Blackwell	<b>Art Unit</b> 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 14-18,22-26,44-50 and 55-63 is/are pending in the application.  
 4a) Of the above claim(s) 63 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-16,22-24,44-48,50,55,56,59 and 60 is/are rejected.
- 7) ☒ Claim(s) 17,18,25,26,49,57,58,61 and 62 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I in the reply filed on March 10, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Examiner's Comment***

2. The use of "integral" with regards to the oxygen conducting material is taken to mean that oxygen conducting material is either the transparent base layer, is incorporated into the transparent base layer or is another layer contacting the transparent base layer.

3. As there is no discussion in the specification as to nature of the composition of the heat transfer materials, the same materials that make up the catalytic materials will be taken to also cover heat transfer materials as there are some claims, which use "catalytic/heat transfer". It is noted that Applicant has not contested the Examiner's interpretation of the heat transfer material.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

*(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.*

*(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

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5. Claims 14-16, 19-24, 44-46, 55-56, and 59-60 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 6,054,227, Greenberg et al.

*Regarding claims 14-16*

Greenberg et al disclose a self-cleaning coating that can be applied to the surfaces of an oven, including the interior surfaces such as the oven transparency (window), (column 3, lines 30-58). When the substrate is glass, a barrier layer (transparent base layer) is placed between the substrate and the catalytic layer, (column 4, lines 33-40). The barrier layer can be comprised of a mixture of tin oxides and zirconium oxides which function not only as the base layer but also an oxygen conducting layer with electrically conductivity, (column 5, lines 16-21), meeting the limitations of claims 14-16.

*Regarding claims 19-21*

When the substrate is glass, a barrier layer (transparent base layer) is placed between the substrate and the catalytic layer, (column 4, lines 33-40). According to the specification, one of the means for heating is the use of conductive materials, (specification, page 19, line 21). Figure 3, demonstrates that the barrier layers is in contact with the conductive material of the oven frame which is comprised of metal, (column 4, lines 33-40). The barrier layer can be comprised of a mixture of tin oxides and zirconium oxides which function not only as the base layer but also an oxygen conducting layer with electrically conductivity, (column 5, lines 16-21), meeting the limitations of claims 19-21.

*Regarding claims 22-24*

When the substrate is glass, a barrier layer (transparent base layer) is placed between the substrate and the catalytic layer, (column 4, lines 33-40). According to the specification, one of

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the means for heating is the use of conductive materials, (specification, page 19, line 21). Figure 3, demonstrates that the barrier layers is in contact with the conductive material of the oven frame which is comprised of metal, (column 4, lines 33-40). The barrier layer can be comprised of a mixture of tin oxides and zirconium oxides which function not only as the base layer but also an oxygen conducting layer with electrically conductivity, (column 5, lines 16-21), meeting the limitations of claims 22-24.

*Regarding claims 44-46*

When the substrate is glass, a barrier layer (transparent base layer) is placed between the substrate and the catalytic layer, (column 4, lines 33-40). The barrier layer can be comprised of a mixture of tin oxides and zirconium oxides which function not only as the base layer but also an oxygen conducting layer with electrically conductivity, (column 5, lines 16-21), meeting the limitations of claims 44-46.

*Regarding claims 55-56 and 59-61*

When the substrate is glass, a barrier layer (transparent base layer) is placed between the substrate and the catalytic layer, (column 4, lines 33-40). The barrier layer can be comprised of zirconium oxides, (column 5, lines 16-21), meeting the limitations of claims 55-56 and 59-60.

6. Claims 14, 16, 44, 46-48, 50, 55-56, and 59-60 are rejected under 35 U.S.C. 102(a) as being anticipated by United States Patent Application Publication no. 2003/0235720, Athey et al.

*Regarding claims 14 and 16*

Athey et al disclose a self cleaning window comprised of a transparent substrate with a multilayered coating formed thereon, (page 1, sections 0006-0007 and 0011-0012). The multilayered coating is comprised of a functional layer (transparent base layer/oxygen

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conducting material), a first coating (catalytic material), and second coating wherein layer structure can be a transparent conductive layer, zirconium oxide, and titanium oxide, respectively, (page 3, sections 0027-0028; page 4, section 0032), meeting the limitations of claims 14 and 16.

*Regarding claims 44 and 46-47*

The multilayered coating is comprised of a functional layer (transparent base layer/oxygen conducting material), a first coating (catalytic/heat transfer material), and second coating wherein layer structure can be a transparent conductive layer, zirconium oxide, and titanium oxide, respectively, (page 3, sections 0027-0028; page 4, section 0032), meeting the limitations of claims 44 and 46-47.

*Regarding claims 48 and 50*

The multilayered coating is comprised of a functional layer (transparent base layer/oxygen conducting material), a first coating (catalytic/heat transfer material), and second coating wherein layer structure can be a transparent conductive layer, zirconium oxide, and titanium oxide, respectively, (page 3, sections 0027-0028; page 4, section 0032), meeting the limitations of claims 48 and 50.

*Regarding claims 55-56 and 59-60*

The multilayered coating is comprised of a functional layer (transparent base layer/oxygen conducting material), a first coating (catalytic material), and second coating wherein layer structure can be a transparent conductive layer, zirconium oxide, and titanium oxide, respectively, (page 3, sections 0027-0028; page 4, section 0032), meeting the limitations of claims 55-56 and 59-60.

***Allowable Subject Matter***

7. Claims 17-18, 25-26, 49, 57-58, and 61-62 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art of record while teaching most of the layer structure does not teach or suggest that the catalytic material layer consists of gold, silver, platinum, or a zeolite.

***Response to Arguments***

8. Applicant's arguments filed March 10, 2006 have been fully considered but they are not persuasive. Applicant contends that Greenberg et al (US 6,054,227) does not teach or suggest Applicant's claimed integrated self-cleaning window assembly. The distinction between the two inventions is the Greenberg et al's self-cleaning coating is photocatalytically activated wherein Applicant's self-cleaning coating is a thermally activated catalyst.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., thermally activated catalyst) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim limitations only state that the material is catalytic. Any type of catalytic material that can be put in the layer structure would meet the catalyst limitation, as set forth in the claims, as the catalyst is not limited to a particular type of catalyst.

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9. For the reasons stated above the rejection stands.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn Blackwell whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Gwendolyn Blackwell  
Examiner  
Art Unit 1775

gab